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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,284	04/05/2005	Martin Morters	268418US0X PCT	4672

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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SMITH, JENNIFER A

ART UNIT	PAPER NUMBER
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4116

NOTIFICATION DATE	DELIVERY MODE
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11/30/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/530,284	<b>Applicant(s)</b> MORTERS ET AL.	
	<b>Examiner</b> Jennifer A. Smith	<b>Art Unit</b> 4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 6-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/05/2005, 04/17/2005, 10/24/2005</u> .                      | 6) <input type="checkbox"/> Other: _____                          |



## DETAILED ACTION

### *Status of Application*

Applicant's election with traverse to prosecute the subject matter of Group I: Claims 1-5 in the reply filed on 10/30/2007 is acknowledged. The traversal is on the ground(s) that no adequate reasons and/or examples have been provided to support a conclusion of patentable distinctiveness between the identified groups I-VII. Also, applicant asserts that it has not been shown that a burden exists in searching the claims of the eight groups.

This is not found persuasive because the question of unity of invention has been reconsidered in view of the search performed. A review of the prior art makes clear that claimed inventions not novel over the prior art: Hartmann et al. US Patent No. 5,959,005. The common special technical feature between the inventions I-VIII is the pyrogenically produced silica powder of claim 1. Such a substance is known from claim one of US 5,959,005. The common concept referred to above is therefore known from the above reference. Hence, the eight inventions are not anymore linked by a common concept. The present application does therefore not satisfy the requirements of Rule 13 PCT and corresponds to a non-unity a posteriori. Thus, lack of unity becomes apparent "a posteriori" after taking the prior art into consideration.

The requirement is still deemed proper and is therefore made **FINAL**.

Claims 6-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/30/2007.

Claims 1-5 are presented for examination.

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 12/17/2002. Receipt is acknowledged of certified copy submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statements (IDS) were submitted on 04/05/2005, 04/17/2005, 10/24/2005. The submissions are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner. Please refer to applicants' copy of the 1449 submitted herewith.

### ***Specification Objections***

The disclosure is objected to because the term “BET surface” and “BET surface area” are used interchangeably throughout the specification. It is not clear if these are the same terms, which refer to surface area. Correction is required.

### ***Claim Objections***

Claims 1-5 are objected to because of the following informalities: The term “BET surface” in independent claim 1 and dependent claim 5 is not commensurate with the intended meaning (surface area). The specification does not define this term to mean surface area. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following are quotations of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by  
Hartmann et al. US Patent No. 5,959,005.

In the instant case, claim 1 is drawn to a pyrogenically produced silica powder with properties:

- a BET surface of 30 to 90 m<sup>2</sup>/g
- a DBP number of at least 80, expressed in g of dibutyl phthalate/100 g of silica
- a tamped density of no more than 110 g/l

Hartmann et al. (US '005, hereafter) teaches in **Claim 1 – Column 2, lines 25-35**, a method of producing a silica powder with the chemical properties:

- specific surface area according to BET 80-400 m<sup>2</sup>/g
- DBP number less than 200%
- Tamped density 50-300 g/l

US '005 also teaches the silica as being produced by the flame hydrolysis of SiCl<sub>4</sub> in **Column 1, lines 42-44**. The ranges set forth in US '005 encompass the values in the claims of the instant application.

Instant claim 4 is drawn to the silica powder of claim 1, additionally the silica powder has a pH value of 3.8-5 in a 4% aqueous dispersion.

US '005 teaches a pH value of 3-10 in **Claim 1 – Column 2, lines 25-35**.

Claim 5 is rejected under 35 U.S.C. 102(e) as being anticipated by Meyer et al.  
US Patent Publication No. 2005/0244642 A1.

In the instant case, claim 5 is drawn to a pyrogenically silica powder of claim 1 with properties:

- a BET surface of 35 to 55 m<sup>2</sup>/g
- a DBP number of 100-130, expressed in g of dibutyl phthalate/100 g of silica
- a pH of 4.3 to 4.8 in a 4% aqueous dispersion.

Meyer et al. (US '642, hereafter) teaches in **Claim 2** pyrogenically produced silica with the following physico-chemical characteristics:

- a BET surface area of 25-400 m<sup>2</sup>/g
- a DBP value of less than 200%
- a pH value of 3-10

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartmann et al. US Patent No. 5,959,005 in view of Schumacher et al. US Patent Publication No. 2006/0154994.

Instant claim 2 is drawn to the silica powder of claim 1, additionally the average aggregate circumference is 1000 nm.

Instant claim 3 is drawn to the silica powder of claim 1, additionally the kurtosis of the aggregate area is at least 20.

US '005 teaches the silica powder of claim 1 as evidenced by the above rejection. The instant claims differ from US '005 because US '005 fails to explicitly teach limitations to the average aggregate circumference and the kurtosis of the aggregate area.

US '005 teaches an average particle size of 7-40 nm. Schumacher et al. (US '994, hereafter) teaches similar pyrogenically produced silica with an average particle

size of 13.9-19.8 nm in Table 4. For this range, aggregate circumference is between 1107 and 1916 nm. One of ordinary skill would understand, in view of the prior art, that aggregate circumference would fall into this range. Applicants' disclosure teaches that aggregate circumference can be determined e.g. by image analysis of the TEM images. With regards to teachings of US '994, the average aggregate circumference of the silica powder of instant claim 1 can be regarded as an inherent physical property of the invention.

In the same way, the kurtosis (steepness), which is a measure of the type of distribution at the edges, of the aggregate area of the powder according to the invention is an inherent physical property of the invention of claim 1.

### ***Conclusion***

Claims 1-5 are rejected.

Claims 6-23 are withdrawn from consideration.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Smith whose telephone number is 571-270-3599. The examiner can normally be reached on Monday - Friday, 8:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on 571-272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4116

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer A. Smith  
November 20, 2007  
TC 4116

JS

/Vickie Kim/

Supervisory Patent Examiner, Art Unit 4116